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Stories of modern science ... from UPI

By Christine Suh

UPI Science News

From the Science & Technology Desk

Published 4/16/2003 7:45 AM

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A CLONE IS NOT A TWIN AFTER ALL

Two new studies have shown that cloned pigs act and look different from the animal whose original DNA they carry. In fact, clones can vary in physical appearance and behavior as much as animals bred conventionally do. The findings debunk the popular myth clones are carbon copies of their "parents." Researchers said the public has been fed the notion cloning technology can create cookie-cutter animals - pets, for example. "The implication is that your cloned pet is going to behave and look like the one you already have and that will not be the case," said Jorge Piedrahita, researcher at North Carolina State University's College of Veterinary Medicine. Some characteristics might not be the same as parent traits because genetic errors can be introduced during the cloning process — a good reason, Piedrahita said, for cloning researchers to proceed carefully. He added some clones will be very healthy while others will not be able to survive.

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HEART STEM CELLS CAN REGENERATE MUSCLE

Researchers have demonstrated hearts have stem-like cells that can become three different kinds of cardiac cell types. Before this new research was conducted, many thought this differentiation impossible and the generation of new cardiac cells came from bone marrow stem cells. Although, authors said, this assumption "straight-jacketed" cardiovascular research, the constraints are loosening. New York Medical College investigated took stem-like cells from an adult heart and transplanted them to a heart that had lost muscle. The cells began to rebuild the damaged tissue. The findings could lead to new ways to restore muscle and other heart cells.

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LAKES ACT AS BAROMETER FOR ACID RAIN

Researchers are using lakes to test the progress of a campaign started years ago to remove sulfuric acid from rain. They have found that lakes in the Adirondack region of New York finally are showing signs of recovery. Researchers sampled water from the lakes to measure levels of sulfate ionization, an indicator of acid rain. Decreases in the ions increase pH -- making the water less acidic and improving its natural ability to neutralize acid. This is what is happening in the Adirondack lakes -- but slowly. "This is clear evidence that the Clean Air Act is working," said Charles Driscoll, professor of environmental engineering at Syracuse University. However, a lot of work remains to be done, he said. If acid rain continues to fall at current rates, many lakes will take decades to recover and become home again to diverse life they once supported.

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X-RAYS EMANATE FROM A BROWN DWARF

Scientists have detected X-rays coming from a brown dwarf featherweight in a young star system. "This

brown dwarf is as bright as the sun today in X-ray light while it is 50 times less massive," said Yohko Tsuboi of Chuo University in Tokyo. "This raises the possibility that even massive planets might emit X-rays by themselves during their youth." After three hours of observation using NASA's Chandra X-ray Observatory's advanced imaging spectrometer, researchers discovered the rays from the dwarf named TWA 5B. Astronomers said they hope the discovery will lead to a better understanding of the evolution of brown dwarfs, otherwise known as "failed stars" because it is thought their masses are too small to spark the nuclear fusion reactions that ignite stars.

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